

REMARKS

This application pertains to a novel combination static mixer/heat exchanger.

Claims 1-21 are pending.

The claims have been amended to more specifically recite that the heat exchange tubes pass into and out of the housing interior and are closed to the interior of the housing. Support for these limitations are found throughout the specification, in particular, Figure 2a and the discussion of Fig. 2 at page 22. The disclosure at page 6, lines 18-20, that the temperature of the tubes may be controlled by passing a heat-transfer fluid through them will also be seen by those skilled in the art as meaning that the tubes are isolated from the interior of the reactor housing, just as the interior of the tubes of any heat exchanger, such as a shell and tube heat exchanger, are isolated from the housing or shell of the heat exchanger.

No new matter is added.

Claims 1-10, 12, 14-18 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Streiff et al. (US Re. 36,969). Applicants have previously pointed out that Streiff's tubes (20) do not pass "through" Streiff's housing, but rather pass into the housing and discharge directly into the housing. Streiff's tubes (20) pass into, but not out of, Streiff's housing. Applicants' tubes clearly pass into and out of the reactor

housing, and do not discharge into the housing.

The Examiner previously found this argument not to be persuasive, because the claims did not recite the limitations argued. The claims have now been amended to more precisely recite the distinctions argued above. It is believed that the claims, as now amended, are neither anticipated by nor obvious over Streiff, and the rejection of claims 1-10, 12, 14-18 and 20 under 35 U.S.C. 102(b) as being anticipated by Streiff et al. (US Re. 36,969) should now be withdrawn.

Claims 11 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Streiff ('969) in view of Mentzer et al. (US 6,042,263). The Examiner turns to Mentzer for a contoured inside surface. A contoured inside surface will not overcome the differences pointed out above, however.

Moreover, as the Examiner acknowledges at the bottom of page 4 of the Office Action, Streiff's tubes (20) are used to convey ammonia into the flue gases in the housing. Since the tubes carry only a single-substance, ammonia, there would be no reason to "improve mixing" in tubes (20), and thus no reason in any case to add Mentzer's "buff body diffuser" to Streiff's tubes. Furthermore, as the Examiner will note from Mentzer's Fig. 2, the buff body diffuser is an insert within the tubes, and the tubes are not "contoured to increase their surface area", as is required by Applicants' claims.

The rejection of claims 11 and 21 under 35 U.S.C. 103(a) as being unpatentable

over Streiff ('969) in view of Mentzer et al. (US 6,042,263), should accordingly be withdrawn.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Streiff ('969). The Examiner contends that it would be obvious to provide Streiff with electrical heating to ensure temperature is sufficient for catalysis. Applicants' claim recites that the *tubes* are provided with a resistance heating element or an electrical cooling element, however, and the Examiner has not shown where Streiff would teach or suggest adding same to any of his tubes (20). Moreover, the differences discussed above would not be overcome by any kind of heating or cooling. The rejection of claim 13 under 35 U.S.C. 103(a) as being unpatentable over Streiff ('969) should accordingly now be withdrawn.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Streiff ('969). The Examiner speculates that the ammonia supplied to Streiff's tubes has a different temperature than the flue gases in the housing, and that temperature of the flue gases would thus be controlled. No person skilled in the art would read this as suggesting heat transfer through Streiff's tubes (20). Moreover, nothing in this proposition would overcome the differences pointed out above. The rejection of claim 19 under 35 U.S.C. 103(a) as being unpatentable over Streiff ('969) should accordingly now be withdrawn.

In view of the present amendments and remarks it is believed that claims 1-21 are now

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In condition for allowance. Reconsideration of said claims by the Examiner is respectfully requested and the allowance thereof is courteously solicited. Should the Examiner not deem the present amendment and remarks to place the instant claims in condition for allowance, it is respectfully requested that this Amendment Under Rule 116 be entered for the purpose of placing the prosecution record in better condition for appeal.

**CONDITIONAL PETITION FOR EXTENSION OF TIME**

If any extension of time for this response is required, Applicants request that this be considered a petition therefor. Please charge the required petition fee to Deposit Account No. 14-1263.

**ADDITIONAL FEE**

Please charge any insufficiency of fee or credit any excess to Deposit Account No. 14-1263.

Respectfully submitted,  
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Date November 10, 2005